COURSE: Prescribed Fire Planning and Implementation

TOPIC: Prescription Development (Unit 4)

SUGGESTED TIME: 4 Hours

TRAINING AIDS NEEDED: Flip chart, pens, laptop with powerpoint software and
                            BEHAVE PLUS software, PFPI presentation on disk,
                            overhead projector (optional), view graphs (optional)

INSTRUCTOR NOTES:

This unit is designed to give the students a good background in the operation of
BEHAVE PLUS in designing prescriptions. To those who ask, "Why don't you
teach us Rx Windows?" your best reply is that it is always good to learn to
multiply before learning to divide. Once they understand how the prescription
development process works, Rx Windows becomes very understandable.

This unit cannot be taught without a computer and projector. It is so much easier
to accomplish what you need to do if you can do it as the students are doing the
same operations. Please work through the material ahead of time to ensure you
are prepared to teach this unit.

Preface the presentation of this unit with the following disclaimer or something to
the same effect: "I am going to stand up here today and talk about this computer
program as if it is the answer to fire behavior prediction inside a prescribed fire
unit. It is not the answer. It is only a tool that you must learn to use to help
predict fire behavior on your prescribed burn unit. You will hear shortly why the
fire spread model is not very appropriate for predicting fire behavior in prescribed
burn units. And yet, we need some sort of a prediction system to help us
understand the relationships between the input variables and the outputs. Once
you learn how to use the program, you must learn to apply the information to
your particular situation of fuels, weather and topography."

Fuel model 2 is used as the model for all exercises because it consists of all live
and dead fuels and it exhibits fairly intense fire behavior at many prescription
parameters, making the students look hard for answers to questions. Also, do
not use 15% 1 hour fuel moisture for any of the spotting distance calculations.
15% is the moisture of extinction for fuel model 2.

Some important points to remember: Define "prescription" in the following
manner: "A prescription is not so much defined by the inputs to a fire behavior
prediction model as it is by the outputs produced by the inputs." The prediction is
not defined so much by temperature, relative humidity, and wind speed, which is
a common definition today, but by the outputs such as rate of spread, flame

length, scorch height, or whatever else it takes to be able to measure if the prescribed fire is meeting objectives. Remember, the fire spread model only needs two basic inputs, 1 hour fuel moisture and mid flame wind speed (corrected for slope, so it is called effective wind speed). Inputs such as temperature and relative humidity are used to calculate 1 hour fuel moisture, and in effect can be shown as fairly wide prescription variables. It is also important to show that if someone shows a fairly wide temperature, relative humidity and wind speed window, that a statement to the effect that only the inputs which produce appropriate outputs are really "in prescription." A maximum temperature, minimum relative humidity, maximum wind speed day may not be in prescription, but a maximum temperature, minimum relative humidity, minimum wind speed day may.